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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,215	09/07/2006	Ulrich Bischofberger	BISCHOFBERGER-8 PCT	8398
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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			EXAMINER FOGARTY, CAITLIN ANNE	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,215	Applicant(s) BISCHOFBERGER, ULRICH	
	Examiner CAITLIN FOGARTY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/15/2006, 10/6/2006, 12/4/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1 – 13 are pending and are presented for examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statements (IDS) were submitted on August 15, 2006, October 6, 2006, and December 4, 2006. The International Search Report listed in the August 15, 2006 IDS is not a proper document for an IDS and therefore will not be considered. These submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejections - 35 USC § 112/101

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claim 5 recites the limitation "the primary magnesium silicide that forms" in line 4. There is insufficient antecedent basis for this limitation in the claim.

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7. Claim 7 recites the limitation "the hot forming" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 13 are held to be indefinite because they merely recite a use without any active, positive steps delimiting how this use is actually practiced.

10. Claims 12 and 13 provide for the use of a material on the basis of an aluminum alloy, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 12 and 13 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1 and 8 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 6,419,769) in view of Schmid et al. (US 5,178,686).

With respect to instant claims 1 and 8, col. 4 lines 40-61 of Lee teach a method for production of a material from an aluminum-based alloy where the base alloy is subsequently processed using conventional gravity casting (heat formed) and then subjected to heat treatment consisting of solution heat treatment, quenching, and artificial aging.

Lee differs from instant claims 1 and 8 because the aluminum-based alloy of Lee does not have an overlapping composition with the compositions of instant claims 1 and 8. However, col. 2 lines 24-68 of Schmid teach an aluminum-based alloy with an overlapping composition. The alloy of Schmid has a composition of up to 15 wt% Si, up

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to 5 wt% Cu, 5 – 25 wt% magnesium silicide ($1.73 \times \text{Si}$), and the remainder aluminum, where the silicon may be replaced entirely or in part by magnesium in an amount of up to 15 wt% (m). Therefore, the compositions of Si, Mg, Cu, and Al in the alloy of Schmid overlap with the compositions of Si, Mg, Cu, and Al in instant claims 1 and 8. The formula in claim 1 is also satisfied by the alloy of Schmid where the term " $1.73 \times \text{Si}$ " is satisfied by the composition of magnesium silicide and the term "m" is satisfied by the fact that the silicon may be replaced entirely or in part by magnesium in an amount of up to 15 wt%. Furthermore, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, *Taklatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. *In re Austin, et al.*, 149 USPQ 685, 688.

It would have been obvious to one of ordinary skill in the art to use the aluminum-based alloy of Schmid in the instant method for the production of a material because the alloy of Schmid is used to make components for internal combustion engines as is the instant alloy. In addition the components made from the alloy of Schmid using the instant method would be lightweight and have high-temperature strength, resistance to thermal shock and fatigue limit (see Schmid abstract).

Lee differs from instant claim 9 because the aluminum-based alloy of Lee does not have an overlapping composition with the instant claim 9 composition. However,

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col. 2 lines 24-68 of Schmid teach an aluminum-based alloy with an overlapping composition as discussed above. The aluminum-based alloy of Schmid may also comprise preferable 0.05 to 2 wt% manganese, copper, nickel, or cobalt which overlaps with the composition of foreign elements recited in instant claim 9. It would have been obvious to one of ordinary skill in the art to use the aluminum-based alloy of Schmid in the instant method for the production of a material because the alloy of Schmid is used to make components for internal combustion engines as is the instant alloy. In addition the components made from the alloy of Schmid using the instant method would be lightweight and have high-temperature strength, resistance to thermal shock and fatigue limit (see Schmid abstract).

Regarding instant claim 10, col. 4 lines 40-61 of Lee teach that the material is heated through at 900-1000°F (482-538°C) for 15 minutes to 4 hours which overlaps with the temperature and time recited in instant claim 10. Then Lee discloses that the material is quenched in water and heated at a temperature of 425°F (218°C) for 6-12 hours which would achieve the same result as the annealing step recited in instant claim 10. The heating after quenching temperature taught by Lee is very close to the temperature recited in instant claim 10 and the heating time overlaps the annealing time recited in instant claim 10.

In regards to instant claim 11, Lee in view of Schmid teaches a material on the basis of an aluminum alloy, which can be obtained by the means of a method according to claim 1 as discussed above.

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14. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 6,419,769) in view of Schmid et al. (US 5,178,686) as applied to claim 1 above, and further in view of Volume 7 of the 1998 9th Edition *ASM Handbook*.

Lee in view of Schmid differs from instant claim 2 because it does not teach that the base alloy is produced by means of spray compacting. However, it would have been obvious to one of ordinary skill in the art to produce the base alloy by spray compacting in the method of Lee in view of Schmid because it is an efficient process and is a conventional method in the art as evidenced by p. 396-397 of Volume 7 of the 1998 9th Edition *ASM Handbook*.

15. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 6,419,769) in view of Schmid et al. (US 5,178,686) as applied to claim above, and further in view of Volume 15 of the 1988 9th Edition *ASM Handbook*.

Lee in view of Schmid differs from instant claims 3 and 4 because it does not teach that the base alloy is produced by means of the method of continuous casting or the method of chill casting. However, it would have been obvious to one of ordinary skill in the art to produce the base alloy by the method of continuous casting or chill casting in the method of Lee in view of Schmid because it is a conventional method in the art as evidenced by p. 313-314 of Volume 15 of the 1988 9th Edition *ASM Handbook* and chill casting can directly prepare alloys for heat treatment without intermediate mechanical working processes.

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16. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US 6,419,769) in view of Schmid et al. (US 5,178,686) as applied to claim 1 above, and further in view of the admitted prior art on p. 5 paragraph 3 of the instant specification.

Lee in view of Schmid differs from instant claim 6 because it does not disclose that the base alloy is hot-formed by means of extrusion, hot rolling, or forging. However, it would have been obvious to one of ordinary skill in the art to apply the conventional hot-forming methods of extrusion, hot rolling, or forging to the base alloy of Schmid in the method of Lee with expected success as evidenced by the admitted prior art (see p. 5 paragraph 3 of the instant specification).

There are no prior art rejections for instant claims 5 and 7 because of their indefinite scope as discussed above.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

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